

**ABSTRACT**

An architecture and method for performing dynamic route discovery and variable time slot reservation provisioning within optical-switched networks. The method employs extensions to the RSVP-TE signaling protocol, which uses various messages to reserve network resources. Under an overlay routing embodiment, network resources are reserved via a resource reservation message that is sent hop-by-hop between switching nodes, wherein the next hops are dynamically selected based on routing tree tables in the switching nodes. The concatenation of hops forms the route for the reserved lightpath. The resource reservation request is passed between nodes defined by a dynamically routed path, and resource availability is confirmed for the entire lightpath prior to confirming the resource reservations.

Intel P17541 Final.doc